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## The Influence of Childhood Sexual Abuse on Adolescent Outcomes: The Roles of Gender, Poverty, and Revictimization

Karen M. Matta Oshima, Melissa Jonson-Reid, and Kristen D. Seay

Washington University, St. Louis, Missouri

### Abstract

Research on childhood sexual abuse (CSA) has focused on adult revictimization and outcomes. This article examines the rate of child maltreatment revictimization among male and female children reported to child protective services for CSA and whether revictimization impacts outcomes. Using longitudinal administrative data, Cox regressions were used to examine relationships between initial report of CSA, maltreatment revictimization, and adolescent outcomes among children from poor and non-poor families. Despite no significant differences in CSA rates between poor and non-poor families, poor CSA victims were significantly more likely to have re-reports for maltreatment. Children with multiple reports were more likely to have negative outcomes. Interventions for CSA survivors should focus on preventing maltreatment recurrence generally and not ignore needs of male victims.

### Keywords

maltreatment; revictimization; gender; adolescent outcomes

Childhood sexual abuse (CSA) is a serious public health problem experienced by an estimated 25% of girls and 16% of boys in the United States by the age of 18 (Dube et al., 2005). Although not all cases of CSA are reported to or investigated by Child Protective Service (CPS), CSA is experienced by many children in the child welfare system. In 2011, 9.1% of the 676,569 child maltreatment victims in the U.S. were found to be sexually abused (U.S. Department of Health and Human Services, 2012). In addition to experiencing CSA, many of these children experience other types of maltreatment (Maikovich-Fong & Jaffee, 2010). One study found that among children initially reported to CPS for sexual abuse, 77% of those reported to CPS a second time are reported for a different type of maltreatment; 93% of those with a third report (Jonson-Reid, Drake, Chung, & Way, 2003). These experiences of cross-type recidivism require further exploration.

CSA affects both males and females, but less is known about male victims. Also, CSA has been linked to a number of long term negative consequences including an increased risk of delinquency, mental health and physical health problems, suicide attempts, running away from home, and substance use problems (Feiring, Miller-Johnson, & Cleland, 2007;

Fergusson, Boden, & Horwood, 2008; Kaufman & Widom, 1999; Trickett, Noll, & Putnam, 2011). However, it is unclear how outcomes vary by gender and whether or not these outcomes are related to CSA once recurrence is controlled. At least one study recently found no gender differences in later outcomes, but outcomes were limited to self-report and caregiver report of externalizing and internalizing behaviors (Maikovich-Fong & Jaffee, 2010).

Using an ecological-transactional model to frame our research, this analysis helps fill this gap by examining childhood victimization patterns related to CSA for males and females and then examining whether CSA predicts negative outcomes prior to adulthood. The ecological-transactional model posits that combinations of factors with varying levels of proximity to the child dynamically interact within multiple nested levels (i.e., microsystem, exosystem, and macrosystem) to influence the development and outcomes of the child (Lynch & Cicchetti, 1998; Scannapieco, Connell-Carrick, & Jones, 2005). Risks at any level of the model can negatively interfere with a child's trajectory (Cicchetti & Toth, 2009). Working within this framework we examined microsystem level variables (e.g., gender, race), exosystem variables (e.g., caregiver mental health treatment and arrest, family poverty), and macrosystem variables (e.g., census tract poverty rates) for their potential influence on maltreatment recurrence and adolescent outcomes.

## Factors Associated With Child Sexual Abuse

### Individual characteristics

Studies have found that gender, age and race are associated with the risk of sexual abuse victimization, although questions remain. Research consistently indicates that girls are sexually abused at higher rates than boys at a ratio of 2.5 to 1 (Finkelhor, 1993; Putnam, 2003; Sedlak et al., 2010). However, sexual abuse is under reported by both genders (Basile, Chen, Black, & Saltzman, 2007). Risk for CSA is believed to increase around age 6 and again at age 10 (Finkelhor, 1993). However, data from the Fourth National Incidence Study of Child Abuse and Neglect (NIS-4) indicate a recent increase in rates of sexual abuse among children from birth to age 2 (Sedlak et al., 2010). If the first sexual abuse experience occurs at an early age this may increase the odds of sexual revictimization during adolescence or adulthood (Casey & Nurius, 2005). Although a review of the literature by Putnam (2003) indicated that race and ethnicity are not risk factors for CSA, data collected for NIS-4 found significantly higher rates of sexual abuse among Black children than White or Hispanic children (Sedlak et al., 2010).

### Family characteristics

Several maternal characteristics have been associated with risk for child maltreatment (Dubowitz et al., 2011; Lee & Goerge, 1999; Phillips & Erkanli, 2008). Lee and Goerge (1999) found that children of mothers who give birth at 17 or younger were nearly four times more likely to have a report of sexual abuse by age 5. Children of mothers aged 18 to 19 were at nearly three times higher risk, and those whose mothers were 20 to 21 at birth were at close to two and a half times higher risk than children born to older mothers (Lee & Goerge, 1999). Other studies support this finding (Mersky, Berger, Reynolds, & Gromoske,

2009). Also children whose mothers have not completed high school are at one and half times the risk of having a maltreatment report (Dubowitz et al., 2011). Additionally, when mothers have been arrested the risk of maltreatment increases (Phillips & Erkanli, 2008). However, the relationships between education and criminality, and CSA specifically, are not clear.

Parental mental illness is associated with increased risk of child maltreatment (Chaffin, Kelleher, & Hollenberg, 1996). Having a parent with a mental health disorder approximately doubles a child's risk of physical or sexual abuse (Walsh, MacMillan, & Jamieson, 2002). Moreover, some studies also indicate parental mental health issues can exacerbate adjustment problems for children following a report of sexual abuse (Deblinger, Steer, & Lippmann, 1999). While it is possible that parents with increased mental health problems are in treatment, there is little research that specifically addresses the effects of parental mental health treatment prior to a report of abuse on longer-term outcomes of the child. One exception was a study conducted in the United Kingdom that found that a maternal history of psychiatric illness increased the risk of child maltreatment by 2.34. If the mother was engaged in mental health treatment during her childhood the risk of maltreatment was 3.65 times higher (Sidebotham & Heron, 2006). It is unclear whether or not maternal participation in mental health treatment, as compared to need for treatment, is associated with the risk of CSA.

Family poverty significantly increases the risk of childhood maltreatment (Chaffin et al., 1996). Children in poor families are three to seven times more likely to experience maltreatment (Sedlak et al., 2010). This is likely due to higher levels of family and neighborhood risk factors for maltreatment among poor families (Jonson-Reid, Drake, & Kohl, 2009). The risk of CSA specifically has also been found to be associated with poverty (Hussey et al., 2005; Sedlak et al., 2010).

### **Community characteristics**

Various community characteristics have also been found to be associated with maltreatment (Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007). Chief among these is neighborhood poverty. The higher the poverty rate in a community, the higher the risk is of maltreatment (Coulton, Korbin, Su, & Chow, 1995; Paxson & Waldfogel, 2002). Neighborhoods with the highest poverty rates have sexual abuse reporting rates four times higher than neighborhoods with the lowest poverty rates (Drake & Pandey, 1996).

### **Outcomes After Child Sexual Abuse**

CSA has been linked with a variety of longer-term mental health and behavioral problems. These behavioral problems include general delinquent behaviors such as stealing and running away (Feiring et al., 2007; Kaufman & Widom, 1999), alcohol and substance abuse (Fergusson et al., 2008; Jasinski, Williams, & Siegel, 2000), and a variety of health and mental health outcomes (Croysdale, Drerup, Bewsey, & Hoffmann, 2008; Trickett et al., 2011). In addition, CSA is linked to high risk sexual behaviors such as younger initiation of sexual activity, multiple sexual partners, unprotected sex, and the results of these risk behaviors including sexually transmitted infections (STI; Arriola, Loudon, Doldren, &

Fortenberry, 2005; Lemieux & Byers, 2008; Senn, Carey, Vanable, Coury-Doniger, & Urban, 2007).

There is also evidence that those who experience CSA are less likely to finish high school, attend college, or complete college (Boden, Horwood, & Fergusson, 2007). Although there is little data on the specific association between CSA and entry into the special education system, there is a strong association between general maltreatment and special education entry (Sullivan & Knutson, 2000). Even when controlling for developmental risk factors, maltreated children were twice more likely to be enrolled in special education services than a low income comparison group of children (Jonson-Reid, Drake, Kim, Porterfield, & Lu, 2004).

Severity and physical intrusiveness of CSA may also predict longer term functioning. CSA that includes penetration has been found to increase the odds of subsequent suicide attempts compared to less physically severe sexual abuse (Dube et al., 2005). Still, Fergusson and colleagues (1996) found that those who experienced less physically severe sexual abuse were nearly three times more likely to attempt suicide than those in the non-abused comparison group. Those whose abuse included penetration were nearly twelve times more likely to attempt suicide. Similarly, in a least one study the rates of STI increased with the severity of physical severity of the abuse (Senn et al., 2007).

Questions remain regarding the exact nature of the association between CSA and later negative outcomes. Moreover, it is unclear if maltreatment recurrence varies by gender and whether sequelae of sexual abuse vary by recurrence patterns. Retrospective recall studies cannot adequately control for date of onset and recurrence of maltreatment. For example in a recent study of health outcomes in childhood, maltreatment type became non-significant once recurrence was taken into account (Lanier, Jonson-Reid, Stahlschmidt, Drake, & Constantino, 2010). Such information has important implications for intervention.

Further, many of the factors related to the risk of CSA are also associated with worse outcomes. For example, poverty is associated with CSA but also associated with less access to resources and higher rates of STI (Adimora & Schoenbach, 2005). Maternal mental health problems are associated with CSA but also associated with a variety of child mental health and educational problems (Allen-Meares, Blazeviski, Bybee, & Oyserman, 2010). It is not clear how much additional risk accrues from CSA after controlling for the factors related to the onset of maltreatment.

## Research Questions

To help fill the gaps in knowledge about the outcome trajectories for males and females reported as victims of CSA, the following questions were explored: (a) What is the rate and type of childhood maltreatment revictimization among children with a first report of sexual abuse by gender?; and (b) Does the likelihood of negative behavioral outcomes vary according to victimization history for males and females reported for CSA? Prior research on chronic maltreatment suggests that those with multiple reports would have worse outcomes (Jasinski et al., 2000; Jonson-Reid, Kohl, & Drake, 2012). However, so little

information is available for male victims it is unclear whether patterns would vary by gender.

## Method

The present analyses use data from a larger longitudinal study (hereafter called “parent study”) that followed a cohort of children via multiple administrative datasets from state and regional agencies. The present analyses are limited to those children in the sample whose first maltreatment reports were for CSA and could be followed until age 18. The study received human subjects approval from Washington University in St. Louis and administrative or committee approval from the agencies contributing the data.

## Sample

The parent study sample was drawn from a Midwestern metropolitan area in 1993 and 1994 and included three groups: poor children with no child maltreatment reports or child welfare services (AFDC Only), poor children with investigated child abuse/neglect reports (CAN & AFDC), and non-poor children with investigated child abuse/neglect reports (CAN Only). All CAN subjects were reported due to alleged maltreatment for the first time in 1993 to 1994 from birth through 11 years. CAN subjects were matched to income maintenance data (then Aid to Families with Dependent Children or AFDC) to obtain recent poverty status. Those CAN cases without AFDC records became the CAN Only group. To obtain the poverty only comparison, children were matched by birth year and area of residence. Due to the difficulty in trying to match entire families and to ensure independence of observations, one child per family was randomly selected to be followed for the study. Subjects were followed through multiple administrative datasets with exact dates allowing for prospective analyses. Although sampling occurred in 1993 and 1994 based on the date of first maltreatment report, several of the datasets (e.g., birth records) contain information prior to the sampling period. Subjects were followed through 2009 and were age 16 through 28 at the end of the follow-up period. For this paper, data were limited to children with CAN reports who were at least age 18 at the end of 2009 ( $n = 5,344$ ) and then further limited to children whose first maltreatment report contained allegations of CSA ( $n = 555$ ). Prior analyses and studies have shown consistent differences between those with maltreatment reports and those without (e.g., Jonson-Reid et al., 2009) that are consistent with the extant literature regarding maltreatment and later outcomes.

## Data

Data include tract-level data from the 1990 U.S. census, birth and death records (for censoring), child welfare (specific subtypes of maltreatment reported, reporter source, investigation conclusions, in-home and foster care services), Department of Mental Health Medicaid and non-Medicaid programs, emergency room and hospital records, income maintenance data (AFDC and later TANF), juvenile corrections and juvenile court records, statewide Medicaid data including health hospitalization (ER) and inpatient and outpatient mental health treatment, and special education eligibility records. Data were received several times throughout the study allowing for tracking of multiple contacts within and across

service systems. Mental health treatment records as well as crime and demographic characteristics were available for parents as well as the child subjects.

Linkage between most of the state level data sets was simplified by the presence of a unique common ID number. Other data were matched according to a combination of individual identifiers that were then reviewed manually. Coding decisions were made based on the relevant extant literature, such as attention to the need to aggregate at a sufficient level to protect confidentiality and a thorough understanding of the practices and policies related to the recording of data elements. Since data are administrative rather than survey or interview record, it is not possible to confirm whether data are missing relative to presence or absence in a given agency dataset or particular service within an agency. Basic descriptive information regarding system overlap and services within systems were checked with agency staff as well as extant literature to ascertain they were in the expected range. Children with missing age, initial location, or demographic information were excluded from the sample due to the need to link across data systems and geocode to link to census information. Less than 5% of the sample pool was lost due to this type of missing data.

## Measurement

For research question one, the dependent variable was a re-report of maltreatment measured by an alleged report made at least one week following the index report and prior to age 18. For research question two, the dependent variables were adolescent negative behaviors (i.e., runaway shelter use, problematic substance use as defined by a juvenile court petition, arrest or health treatment for drug or alcohol use prior to age 18, hospital care for a suicide attempt, a juvenile court petition or arrest for violent delinquency, and treatment for a STI not associated with initial report). Treatment for a STI as an outcome, used as a proxy for sexual risk behaviors, was limited to later treatment not coinciding with a report of CSA. Due to a small subsample size for adolescent outcomes by gender, these outcomes had to be collapsed into a variable called “any negative” in the multivariate analysis for research question two.

**Maltreatment**—All information about abuse or neglect in the present study is derived from information on the allegations and subsequent investigation or assessment of reports. Both substantiated and unsubstantiated reports were included due to the demonstrated similarity in both their nature and demonstrated predictive utility (Hussey et al., 2005; Kohl, Jonson-Reid, & Drake, 2009). Maltreatment type is based on the recode of 45 different specific subtypes (e.g., “skull fracture,” “anal/oral sex”). Prior research suggests that the type of CSA may uniquely predict outcomes, therefore, a proxy for severity of CSA developed by categorizing whether the report included oral or anal sex, digital penetration, sexual injury or STI resulting from sexual abuse (i.e., severe) as compared to other forms of sexual abuse (i.e., fondling/touching, pornography, and “other”). Perpetrator type was recoded as parent, parent's paramour, or other (which includes other relatives or caregivers) and was also categorized according to gender. Reporting data are complete for all years.



**Demographics**—Child demographic variables included race (Black = 1), gender (female = 1), and age at the time of the index report for sexual abuse. Due to the demographics of the region at the time of sampling, virtually all study subjects are categorized as Black or White.

**Family and community characteristics**—Family poverty was assessed according to whether the child lived in a home receiving Aid to Families with Dependent Children (AFDC) at baseline. Family size was taken from the number of children included on the maltreatment report or AFDC record. Other caregiver characteristics included age at the child's birth and education status (i.e., graduated high school or did not graduate high school) at baseline. We also examined controls for caregiver record of mental health treatment as well as arrest during the study period because of the potential influence on child outcomes apart from CSA. Community characteristics were drawn from the 1990 census tract information that most closely approximated the sampling time frame. In the present study, median household income and mobility (as measured by percent that moved within the previous 5 years) were examined.

**Services**—It is possible for services to moderate later outcomes. For the present report, child welfare response to the first maltreatment report included whether or not the child's family was offered in-home child welfare services or whether the child entered foster care. Services from other agencies were also examined as possible moderators of outcomes including special education by type of disability and publicly funded mental health treatment for the child.

## Analysis

Data management and analyses were done in Statistical Analysis Software (SAS) 9.2. The main focus of the present analysis was how maltreatment recurrence and select outcomes examined varied according to gender among children from birth to age 11 reported for CSA. Analyses included bivariate chi-square, survival, and logistic regression analyses. Cox regression was used for multivariate analyses of a repeat report of maltreatment because of the capacity to model a dichotomous outcome, control for differing amounts of time at risk, potential clustering by census tract, and to censor cases lost due to death (Allison, 2010). While it is possible cases could have been lost due to movement, a large portion of the datasets used are statewide, allowing for greater coverage. Due to overlap in outcomes (some children experienced more than one) a competing risks approach was not used.

Time at risk (in years) was created by starting at the child's date of birth. Children were censored (no longer at risk) at the time of an outcome, death, or when they turned age 18. Analyses were adjusted using robust standard errors due to potential intra-group correlation of subjects within a census tract. Bivariate survival analyses between each independent variable and dependent variable were utilized (not shown) to test the equality of survivor functions (log-rank test for categorical independent variables and simple Cox model for continuous independent variables). The estimated survivor functions from the bivariate tests were graphed to assess the assumption of proportionality. If a violation was found, a time interaction was created. The interaction term was tested in the multivariate model and was only retained if significant or if it altered the significance of other variables or the overall

model fit. The Cox regression output includes a magnitude of effect called hazard ratios (exponentiated parameter coefficients). A hazard ratio greater than one and statistically significant indicates an increased risk, while a statistically significant hazard ratio between zero and one reflects decreased risk. For continuous variables, the hazard ratio is interpreted as the change per unit of measurement.

For any negative outcome other than recurrence, a logistic regression model was used since all subjects were at risk until age 18 and because some individuals had more than one negative outcome, but the sample size was insufficient to break up by type or timing. Further, some outcomes are more common for males or females (e.g., males have a greater likelihood of receiving a juvenile delinquency petition, but females were more likely to run away). Proc Survey logistic was used to adjust standard errors due to potential intra-group correlation of subjects within a census tract. Odds ratios are reported with the practical interpretation being the same as the hazard ratios.

## Results

Sample characteristics overall and according to whether a child lived in a family with a record of AFDC/TANF use (poor) or not (non-poor) at baseline are presented in Table 1. Children reported for CSA in poor families had caregivers that were younger at birth (23.5 years versus 26.7 years), lived in lower income neighborhoods (average of \$27,800 versus \$34,400 in the census tract), were more likely to be Black (70.8% versus 18.4%), were more likely to be reported for severe sexual abuse (40.4% versus 29.6%), and were more likely to have child welfare responses that included intensive in-home services or foster care (5.3% versus 1.7%). There was no difference in gender representation among poor and non-poor children reported for CSA.

## Recurrence

Among children who had two or more reports ( $n = 259$ ; 46.8% of sample), males were more likely to have a second report for maltreatment that did not include sexual abuse than females (75.7% versus 67.0%), but this difference was not significant. Most subsequent reports were for physical abuse or neglect. Initial CSA reports were far more common for females ( $n = 426$ ) than males ( $n = 129$ ), but the average number of maltreatment reports over time for females (1 to 14) was similar to the males (1 to 12) in this sample.

Table 2 illustrates the results of a Cox regression model of recurrence (Wald Chi-square = 119.85,  $df = 15$ ,  $p < .0001$ ). Children from a family receiving AFDC/TANF at baseline were over four times more likely to have a second report ( $HR = 4.34$ ,  $p < .001$ ). In the multivariate model, females were less likely to have a second report ( $HR = .64$ ,  $p < .05$ ). While the main effect for race indicated a higher re-report risk for Black children ( $HR = 1.94$ ,  $p < .05$ ), an interaction term indicates that this is only true for Black children who did not live in poor families at baseline ( $HR = .34$ ,  $p < .01$ ). If the alleged perpetrator was the caregiver's paramour, the rate of recurrence was higher when compared to other perpetrator types ( $HR = 1.71$ ,  $p < .01$ ). Children whose alleged perpetrator was male were also more likely to have a subsequent report ( $HR = 1.57$ ,  $p < .05$ ). Children in families receiving family centered services only, compared to no services, were less likely to have a second



report ( $HR = .64, p < .01$ ). Children who were eligible for special education were also less likely to have a subsequent report ( $HR = .54, p < .001$ ).

### Later Negative Outcomes

Among those initially reported for sexual abuse, 6.5% had at least one emergency room visit prior to age 18 due to violence (i.e., gunshot wound, assault, or rape), but not maltreatment. Among the sexually abused children in this sample, 2.5% spent time in a runaway shelter, 8.5% had a juvenile court record or a treatment record for substance abuse, and 4.5% had records of treatment for an STI (reported at a separate time than the CSA). Children whose first report of CSA was classified as severe (i.e., included penetration, STI, or sexual injury) were more likely to have at least one of these negative outcomes (30.6% versus 21.4%,  $p < .05$ ). Males were more likely to have records of arrest or juvenile court petitions for a violent offense (13.8% versus 7.8%,  $p < .05$ ), but only females had records of hospital treatment for suicide. There was no statistically significant difference in later runaway shelter use, substance abuse, or STI by gender.

### Multivariate Models of any Negative Outcome

The individual outcomes were collapsed into a variable called “any negative outcome” for multivariate analyses due to the small subsample sizes for some of the outcomes. Initial model building analyses indicated several interaction terms by gender, therefore, logistic regression models were constructed for males and females separately. Both models had good model fit statistics. The variables tested included those in the overall model of recurrence above as well as measures of recurrence such as type of maltreatment and number of subsequent reports.

#### Males

The model for males had a statistically significant Wald Chi-square with a  $c$  statistic above .8, indicating that the model fit the data relatively well (Wald Chi-square = 44.6147,  $df = 8, p < .0001, c = .85$ ). Among males, those first reported to CPS prior to age 5 were about four times less likely to have a negative outcome ( $OR = .25, p < .01$ ). Males who were Black ( $OR = 4.09, p < .01$ ) or had records of special education due to a learning disability or emotional disturbance ( $OR = 4.73, p < .01$ ) had a higher likelihood of having a negative outcome. Finally, males who had a subsequent report for physical abuse or neglect were at greater risk of a negative outcome ( $OR = 4.02, p < .05$ ) than those with no subsequent report, the coefficient for a re-report of CSA was not significant. There was no significant relationship between the characteristics of the initial report and later negative outcomes. Table 3 reports odds ratios and confidence limits.

#### Females

The model fit statistics for females were similar to the male model (Wald Chi-square = 76.2017,  $df = 9, p < .0001, c = .80$ ). While having had a record of severe sexual abuse was significant in bivariate analyses, once recurrence was controlled this was not significant and was dropped from the final model. Similar to males, Black females experienced a higher likelihood of a later poor outcome ( $OR = 3.30, p < .001$ ). The main effect for having a report

made prior to age 5 ( $OR = .23, p < .01$ ) was similar to males, but for females there was an interaction term indicating that among poor females there was little variation according to the age of the first report ( $OR = 4.67, p < .05$ ). The likelihood of a negative outcome increased with the number of reports ( $OR = 1.63, p < .001$ ) rather than the type of subsequent report. There was no relationship between special education eligibility and later negative outcome, but females with histories of mental health treatment had a higher risk of negative outcomes ( $OR = 3.21, p < .001$ ). Females born to older caregivers had a lower likelihood of later negative outcomes (4% reduction in risk for each additional year of increase in caregiver age). Although family size and having had a parent's paramour as the perpetrator were not statistically significant, their presence added to the model fit and also altered the effect of parent age. Interactions with parent age at birth were not significant, suggesting that the two variables served as suppressors. Table 4 presents odds ratios and confidence limits.

## Discussion and Implications

This study found high rates of alleged child abuse revictimization (as measured by maltreatment reports) for both males and females with initial reports of CSA prior to age 11. These re-reports, however, were typically for other types of maltreatment such as physical abuse or neglect. Males and females experienced similar rates of later negative outcomes, but the variables predicting outcomes varied by gender.

### Severity of Sexual Abuse

Typically CSA with increased physical intrusiveness (e.g., penetration) or injury (e.g., genital bleeding) is categorized as more severe than other forms of CSA (Young, Riggs, & Robinson, 2011). We found no association between severity and subsequent revictimization or later outcomes, once we controlled for general maltreatment recurrence. Regarding longer term outcomes, our findings differ from prior studies of suicidal behavior and STI (Dube et al., 2005; Senn et al., 2007), but this may be partly attributed to the need to collapse these outcomes along with others in the present study. Given the likelihood of negative outcomes in our study, however, our findings suggest that caution be used in assuming that such categorizations of severity should be focal criteria for intervening to prevent other negative outcomes.

### Gender Differences

While reports for sexual abuse are less common among males generally (Putnam, 2003), the revictimization patterns and subsequent negative outcomes were similar to females in this sample. While types of negative outcomes were collapsed in the multivariate model, only hospitalization for suicide had a bivariate association with gender.

There was some indication, however, that there were gender differences in risk factors for later negative outcomes. Similar to studies of the risk of CSA, our study found that poverty continues to influence risk through revictimization for both males and females. Among females, poverty persisted as a predictor of poor outcomes for those with first CSA reported prior to the age of five. For males the type of subsequent report was significant, but not the

total number of reports, while the opposite was true for females. Among males indication of special education for a learning disability or emotional disturbance was associated with worse outcomes. It is not clear based on existing literature why the predictor variables varied by gender, but some speculation as to differences by child service system and maternal age follow. Regarding the findings relative to special education, it may be that these particular disability types are proxies for experiencing problems in school which may contribute to later negative outcomes. While special education status was not significant for females, contact with the mental health system was. It is possible that females are having contact with the mental health system rather than special education because of differences in how difficulties coping with the longer term consequences of CSA manifest for female and male victims. In other words, it is not clear whether there are gender differences in the type of system that responds to problems rather than the underlying need. Nationally, about 75% of children receiving special education for LD or ED are male (National Education Association of the United States & National Association of School Psychologists, 2007). In a study of children reported for maltreatment, mental health need did not vary by gender but access to mental health treatment did (Lindsey et al., 2012). Although Lindsey and colleagues (2012) found that girls were less likely to access treatment, their sample included all maltreatment types rather than being restricted to CSA. Additionally, other studies with high risk adolescent populations have found that female adolescents are significantly more likely to receive mental health treatment than males (Herz, 2001; Lopez-Williams, Stoep, Kuo, & Stewart, 2006).

Regarding maternal age, gender differences were found in studies with children of teen parents: with boys showing greater risk of multiple untoward outcomes, while girls' risks were only related to early parenthood (Pogarsky, Thornberry, & Lizotte, 2006). It may be that such variation appears between males and females while another relationship is found within models for males and females. Further such studies are not focused on children reported for CSA. More research is needed to better understand the dynamics associated with CSA, gender, and other adolescent outcomes.

## Limitations

There are several limitations to this study. Due to the nature of administrative data, it is impossible to assess the need for services as compared to services received. On the other hand, it is of value to understand the known costs (as measured by system contacts) associated with CSA. Similarly, it is possible that some of the children lacking later reports, experienced unreported maltreatment. Children with repeat reports, however, did differ in terms of longer term outcomes. The subsample of males was relatively small, so it is not known whether the gender differences in later negative outcomes would hold in a larger sample. We were also unable to model the various negative outcomes separately due to sample size, however, in bivariate analyses only hospitalization for attempted suicide appeared to vary by gender. Because we could not assess child functioning prior to the first report of CSA, it is not possible to rule out other risk factors associated with the later outcomes that existed independent of CSA. More research with a larger sample and replications in other sites is needed.

## Implications

Our findings indicate that recurrence among children initially reported for CSA is common and highly likely to include other forms of maltreatment. Many studies have found strong associations between recurrent maltreatment and worse later outcomes (Balsam, Lehavot, & Beadnell, 2011; Jasinski et al., 2000; Jonson-Reid et al., 2012; Lang, Stein, Kennedy, & Foy, 2004). This suggests caution in applying interventions that are narrowly focused on preventing CSA recurrence. Rather interventions should be aimed at preventing subsequent maltreatment of any type.

While younger age at first report of maltreatment is often thought to be a signal for greater concern (Finkelhor, 1993), our findings suggest this may vary by gender and poverty. Poverty also played a role in the form of later maltreatment recurrence. Families receiving AFDC at baseline in our data also lived in lower income neighborhoods. It may be that poverty among CSA victims both confers additional risks and restricts access to treatment resources. Both primary prevention and intervention planning should include a careful assessment of the resources available and target filling gaps associated with income.

While special education due to a learning disability (for males) and mental health treatment (for females) were risk factors in our models, this should not be taken to mean that these systems are playing a causal role in later negative outcomes. It was impossible to assess the level and quality of services provided to the children in the sample. Nor was it possible to assess the presence of cognitive or mental health needs prior to the first report of maltreatment. It is possible, however, that the addition of these other system contacts could serve as a signal for more intensive intervention for the individual child.

## Conclusion

While much research attention has been paid to the subject of CSA, our study is one of the few to examine gender differences in outcomes prior to adulthood. While there is a tendency to equate sexual abuse with female gender, our analyses indicate that more research and intervention attention should be paid to males reported for CSA. While preventing initial maltreatment and any recurrence is always preferable, understanding such trajectories may be helpful to treatment providers who later interface with children with long histories of maltreatment.

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## Biographies

Karen M. Matta Oshima, Ph.D., is a recent graduate of the Ph.D. program at the George Warren Brown School of Social Work at Washington University in St. Louis, Missouri. Her research interests include high risk sexual behaviors and delinquency among adolescents and the young adult outcomes of youth with high risk behaviors in adolescence.

Melissa Jonson-Reid, Ph.D., is a Professor at the George Warren Brown School of Social Work and the Director of the Center for Violence and Injury Prevention at Washington University in St. Louis, Missouri. Dr. Jonson-Reid studies outcomes associated with child and adolescent abuse and neglect as well as child abuse prevention. Her focus is the relationship between child maltreatment and later educational, health, and socio-behavioral outcomes.

Kristen D. Seay, M.S.W., is a Doctoral Candidate at the George Warren Brown School of Social Work at Washington University in St. Louis, Missouri. She is a NIDA Predoctoral Fellow, a Doris Duke Fellow, and a Fahs-Beck Scholar. Her research interests include caregiver substance abuse, parenting, and child welfare.

## References

- Adimora AA, Schoenbach VJ. Social context, sexual networks, and racial disparities in rates of sexually transmitted infections. *Journal of Infectious Diseases*. 2005; 191:S115–S122. [PubMed: 15627221]
- Allen-Meares P, Blazeviski J, Bybee D, Oyserman D. Independent effects of paternal involvement and maternal mental illness on child outcomes. *Social Service Review*. 2010; 84(1):103–127.
- Allison, PD. *Survival Analysis Using SAS: A Practical Guide*. 2nd ed.. Cary, NC: SAS Institute; 2010.
- Arriola KRJ, Loudon T, Doldren MA, Fortenberry RM. A meta-analysis of the relationship of child sexual abuse to HIV risk behavior among women. *Child Abuse & Neglect*. 2005; 29(6):725–746. [PubMed: 15979712]
- Balsam KF, Lehavot K, Beadnell B. Sexual revictimization and mental health: A comparison of lesbians, gay men, and heterosexual women. *Journal Of Interpersonal Violence*. 2011; 26(9):1798–1814. [PubMed: 20724297]
- Basile KC, Chen J, Black MC, Saltzman LE. Prevalence and characteristics of sexual violence victimization among U.S. adults, 2001–2003. *Violence And Victims*. 2007; 22(4):437–448. [PubMed: 17691551]
- Boden JM, Horwood LJ, Fergusson DM. Exposure to childhood sexual and physical abuse and subsequent educational achievement outcomes. *Child Abuse & Neglect*. 2007; 31:1101–1114. [PubMed: 17996302]
- Casey EA, Nurius PS. Trauma exposure and sexual revictimization risk. *Violence Against Women*. 2005; 11(4):505–530. [PubMed: 16043560]
- Chaffin M, Kelleher K, Hollenberg J. Onset of physical abuse and neglect: Psychiatric, substance abuse, and social risk factors from prospective community data. *Child Abuse & Neglect*. 1996; 20(3):191–203. [PubMed: 8734549]
- Cicchetti D, Toth SL. The past achievements and future promises of developmental psychopathology: The coming of age of a discipline. *Journal of Child Psychology and Psychiatry*. 2009; 50(1–2):16–25. [PubMed: 19175810]
- Coulton CJ, Crampton DS, Irwin M, Spilsbury JC, Korbin JE. How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect*. 2007; 31(11/12):1117–1142. [PubMed: 18023868]
- Coulton CJ, Korbin JE, Su M, Chow J. Community level factors and child maltreatment rates. *Child Development*. 1995; 66(5):1262–1276. [PubMed: 7555215]
- Croysdale AE, Drerup LC, Bewsey K, Hoffmann NG. Correlates of victimization in a juvenile justice population. *Journal of Aggression, Maltreatment & Trauma*. 2008; 17(1):103–117.
- Deblinger E, Steer R, Lippmann J. Maternal factors associated with sexually abused children's psychosocial adjustment. *Child Maltreatment*. 1999; 4(1):13.
- Drake B, Pandey S. Understanding the relationship between neighborhood poverty and specific types of child maltreatment. *Child Abuse & Neglect*. 1996; 20(11):1003–1018. [PubMed: 8958452]

- Dube SR, Anda RF, Whitfield CL, Brown DW, Felitti VJ, Dong M, Giles WH. Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Preventive Medicine*. 2005; 28(5):430–438. [PubMed: 15894146]
- Dubowitz H, Kim J, Black MM, Weisbart C, Semiati J, Magder LS. Identifying children at high risk for a child maltreatment report. *Child Abuse & Neglect*. 2011; 35(2):96–104. [PubMed: 21376396]
- Feiring C, Miller-Johnson S, Cleland CM. Potential pathways from stigmatization and internalizing symptoms to delinquency in sexually abused youth. *Child Maltreatment*. 2007; 12(3):220–232. [PubMed: 17631622]
- Fergusson DM, Boden JM, Horwood LJ. Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse & Neglect*. 2008; 32(6):607–619. [PubMed: 18565580]
- Fergusson DM, Horwood LJ, Lynskey MT. Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1996; 35(10):1365–1374. [PubMed: 8885591]
- Finkelhor D. Epidemiological factors in the clinical identification of child sexual abuse. *Child Abuse & Neglect*. 1993; 17(1):67–70. [PubMed: 8435788]
- Herz DC. Understanding the use of mental health placements by the juvenile justice system. *Journal of Emotional and Behavioral Disorders*. 2001; 9(3):172–181.
- Hussey JM, Marshall JM, English DJ, Knight ED, Lau AS, Dubowitz H, Kotch JB. Defining maltreatment according to substantiation: Distinction without a difference? *Child Abuse & Neglect*. 2005; 29(5):479–492. [PubMed: 15970321]
- Jasinski JL, Williams LM, Siegel J. Childhood physical and sexual abuse as risk factors for heavy drinking among African-American women: A prospective study. *Child Abuse & Neglect*. 2000; 24(8):1061–1071. [PubMed: 10983816]
- Jonson-Reid M, Drake B, Chung S, Way I. Cross-type recidivism among child maltreatment victims and perpetrators. *Child Abuse & Neglect*. 2003; 27(8):899–917. [PubMed: 12951139]
- Jonson-Reid M, Drake B, Kim J, Porterfield S, Lu H. A prospective analysis of the relationship between reported child maltreatment and special education eligibility among poor children. *Child Maltreatment*. 2004; 9(4):382–394. [PubMed: 15538037]
- Jonson-Reid M, Drake B, Kohl PL. Is the overrepresentation of the poor in child welfare caseloads due to bias or need? *Children & Youth Services Review*. 2009; 31(3):422–427. [PubMed: 25598566]
- Jonson-Reid M, Kohl PL, Drake B. Child and adult outcomes of chronic child maltreatment. *Pediatrics*. 2012; 129(5):839–845. [PubMed: 22529281]
- Kaufman JG, Widom CS. Childhood victimization, running away, and delinquency. *Journal of Research in Crime & Delinquency*. 1999; 36(4):347–381.
- Kohl PL, Jonson-Reid M, Drake B. Time to leave substantiation behind: Findings from a national probability study. *Child Maltreatment*. 2009; 14(1):17–26. [PubMed: 18971346]
- Lang AJ, Stein MB, Kennedy CM, Foy DW. Adult psychopathology and intimate partner violence among survivors of childhood maltreatment. *Journal of Interpersonal Violence*. 2004; 19(10):1102–1118. [PubMed: 15358937]
- Lanier P, Jonson-Reid M, Stahlschmidt MJ, Drake B, Constantino J. Child maltreatment and pediatric health outcomes: A longitudinal study of low-income children. 2010 Jun.
- Lee BJ, Goerge RM. Poverty, early childbearing, and child maltreatment: A multinomial analysis. *Children and Youth Services Review*. 1999; 21(9–10):755–780.
- Lemieux SR, Byers ES. The sexual well-being of women who have experienced child sexual abuse. *Psychology of Women Quarterly*. 2008; 32(2):126–144.
- Lindsey MA, Gilreath TD, Thompson R, Graham JC, Hawley KM, Weisbart C, Kotch JB. Influence of caregiver network support and caregiver psychopathology on child mental health need and service use in the LONGSCAN study. *Children & Youth Services Review*. 2012; 34(5):924–932. [PubMed: 23175595]
- Lopez-Williams A, Stoep AV, Kuo E, Stewart DG. Predictors of mental health service enrollment among juvenile offenders. *Youth Violence and Juvenile Justice*. 2006; 4(3):266–280.



- Lynch M, Cicchetti D. An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology*. 1998; 10(2):235–257. [PubMed: 9635223]
- Maikovich-Fong AK, Jaffee SR. Sex differences in childhood sexual abuse characteristics and victims' emotional and behavioral problems: Findings from a national sample of youth. *Child Abuse & Neglect*. 2010; 34(6):429–437. [PubMed: 20400178]
- Mersky JP, Berger LM, Reynolds AJ, Gromoske AN. Risk factors for child and adolescent maltreatment: A longitudinal investigation of a cohort of inner-city youth. *Child Maltreatment*. 2009; 14(1):73–88. [PubMed: 18596199]
- National Education Association of the United States, & National Association of School Psychologists. *Truth in labeling: Disproportionality in special education*. Washington, DC: NEA Professional Library; 2007.
- Paxson C, Waldfogel J. Work, welfare, and child maltreatment. *Journal of Labor Economics*. 2002; 20(3):435–474.
- Phillips SD, Erkanli A. Differences in patterns of maternal arrest and the parent, family, and child problems encountered in working with families. *Children and Youth Services Review*. 2008; 30(2):157–172.
- Pogarsky G, Thornberry TP, Lizotte AJ. Developmental outcomes for children of young mothers. *Journal of Marriage and Family*. 2006; 68(2):332–344.
- Putnam FW. Ten-year research update review: Child sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2003; 42(3):269–278. [PubMed: 12595779]
- Scannapieco, M.; Connell-Carrick, K.; Jones, LP. *Understanding child maltreatment: An ecological and developmental perspective*. New York, NY: Oxford University Press; 2005.
- Sedlak, AJ.; Mettenburg, J.; Basena, M.; Petta, I.; McPherson, K.; Greene, A.; Li, S. U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. *Fourth National Incidence Study of Child Abuse and Neglect (NIS-4): Report to Congress, Executive Summary*. 2010. Retrieved from [http://www.acf.hhs.gov/programs/opre/abuse\\_neglect/natl\\_incid/index.html](http://www.acf.hhs.gov/programs/opre/abuse_neglect/natl_incid/index.html)
- Senn TE, Carey MP, Venable PA, Coury-Doniger P, Urban M. Characteristics of sexual abuse in childhood and adolescence influence sexual risk behavior in adulthood. *Archives of Sexual Behavior*. 2007; 36(5):637–645. [PubMed: 17192833]
- Sidebotham P, Heron J. Child maltreatment in the “children of the nineties”: A cohort study of risk factors. *Child Abuse & Neglect*. 2006; 30(5):497–522. [PubMed: 16701895]
- Sullivan PM, Knutson JF. Maltreatment and disabilities: A population-based epidemiological study. *Child Abuse & Neglect*. 2000; 24(10):1257–1273. [PubMed: 11075694]
- Trickett PK, Noll JG, Putnam FW. The impact of sexual abuse on female development: Lessons from a multigenerational, longitudinal research study. *Development and Psychopathology*. 2011; 23(2):453–476. [PubMed: 23786689]
- U.S. Department of Health and Human Services. *Child Maltreatment 2011*. 2012. Retrieved from <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>
- Walsh C, MacMillan H, Jamieson E. The relationship between parental psychiatric disorder and child physical and sexual abuse: Findings from the Ontario Health Supplement. *Child Abuse & Neglect*. 2002; 26(1):11–22. [PubMed: 11860159]
- Young TL, Riggs M, Robinson JL. Childhood sexual abuse severity reconsidered: A factor structure of CSA characteristics. *Journal of Child Sexual Abuse*. 2011; 20(4):373–395. [PubMed: 21812543]

**Table 1**

## Sample Characteristics

Characteristic	Overall % (N = 555)	Poor % (n = 322)	Not Poor % (n = 233)
Female	76.8 (n = 426)	78.9 (n = 254)	73.8 (n = 172) <sup>d</sup>
Black	48.8 (n = 271)	70.8 (n = 228)	18.4 (n = 43) <sup>ad</sup>
Caregiver HS grad	57.8 (n = 321)	54.7 (n = 176)	62.2 (n = 145) <sup>d</sup>
Caregiver Ever Arrest	6.8 (n = 38)	9.9 (n = 32)	2.6 (n = 6) <sup>bd</sup>
First Report Severe	35.9 (n = 199)	40.4 (n = 130)	29.6 (n = 69) <sup>bd</sup>
Family Centered Services Only (FCS)	24.1 (n = 134)	26.1 (n = 84)	21.5 (n = 50) <sup>d</sup>
FCS & Intensive In-Home Services	3.8 (n = 21)	5.3 (n = 17)	1.7 (n = 4) <sup>cd</sup>
Foster Care	3.4 (n = 19)	5.0 (n = 16)	1.3 (n = 3) <sup>cd</sup>
Mean Values			
Age at First Report	5.6	5.6	6.0 <sup>bd</sup>
Caregiver Age at Birth	24.9	23.5	26.7 <sup>ad</sup>
Census Tract Income in \$1000's	27.8	23.0	34.4 <sup>ad</sup>

Note. HS = High School.

<sup>a</sup>  $p < 0.001$ ;

<sup>b</sup>  $p < 0.01$ ;

<sup>c</sup>  $p < 0.05$ ;

<sup>d</sup> Dichotomous tests of significance were chi-square and tests of mean differences were *t*-tests.

**Table 2**

Risk of Recurrence (n = 555/recurrence = 259)

Variable	Hazard Ratio	CL
Female	0.64 <sup>c</sup>	0.48–0.85
Black	1.94 <sup>c</sup>	1.08–3.47
Census Tract Median Income	0.99	0.99–1.01
Poverty Group	4.34 <sup>a</sup>	2.87–6.57
Age at First Report	1.03	0.98–1.09
Special Education Eligible	0.54 <sup>a</sup>	0.39–0.74
1 <sup>st</sup> Report Severe	1.13	0.86–1.49
Perpetrator Relationship (Other)	1.00	N/A
Parent	1.14	0.84–1.54
Parent's Paramour	1.71 <sup>b</sup>	1.18–2.48
Male Perpetrator	1.57 <sup>c</sup>	1.07–2.31
Child Welfare Response		
Family Centered	0.64 <sup>b</sup>	0.45–0.89
Intensive In-home	1.26	0.76–2.09
Foster Care	0.68	0.35–1.29
Interaction		
Black*Poverty	0.37 <sup>b</sup>	0.19–0.71

Note.

<sup>a</sup>  $p < 0.001$ ;<sup>b</sup>  $p < 0.01$ ;<sup>c</sup>  $p < 0.05$ ; Wald Chi-square = 119.85,  $df = 15$ ,  $p < .0001$ .

**Table 3**

Risk of Negative Outcomes for Males (n = 129)

Variable	Odds Ratio	CL
Black	4.09 <sup>b</sup>	1.66–10.10
AFDC at baseline	1.52	0.47–4.89
1 <sup>st</sup> report prior to age 5	0.25 <sup>b</sup>	0.10–0.58
Recurrence (none)		
Other type	4.02 <sup>c</sup>	1.20–13.51
Sexual abuse	0.48	0.11–2.17
High mobility in census tract	2.35	0.92–6.05
Special Education for learning disability or emotional disturbance	4.73 <sup>b</sup>	1.67–13.38

*Note.* AFDC = Aid to Families with Dependent Children.

<sup>b</sup>  $p < 0.01$ ,

<sup>c</sup>  $p < 0.05$ ; Wald Chi-square = 44.61,  $df = 8$ ,  $p < .0001$ ,  $c = .85$ .

**Table 4**

Risk of Negative Outcomes for Females (n = 426)

Variable	Odds Ratio	CL
Black	3.30 <sup>a</sup>	1.75–6.21
AFDC at baseline	0.48	0.19–1.20
1 <sup>st</sup> report prior to age 5	0.23 <sup>b</sup>	0.07–0.75
Number of reports	1.63 <sup>a</sup>	1.30–2.05
Alleged Perpetrator (other)		
Paramour	0.50	0.22–1.16
Parent age at birth	0.96 <sup>c</sup>	0.92–1.00
Child Mental Health Treatment	3.21 <sup>a</sup>	1.86–5.54
Number of children in family	1.15	0.95–1.40
Interaction		
1 <sup>st</sup> report prior to age 5 and AFDC	4.67 <sup>c</sup>	1.25–17.45

Note. AFDC = Aid to Families with Dependent Children.

<sup>a</sup>  $p < 0.001$ ,

<sup>b</sup>  $p < 0.01$ ,

<sup>c</sup>  $p < 0.05$ ; Wald Chi-square = 76.20,  $df = 9$ ,  $p < .0001$ ,  $c = .80$ .